



DGDC Meeting Minutes November 8, 2018

Attendance List:

Alyssa Baker	JMT
Roger Barlow	USGS
Dave Bennett	DTI
Mark Biddle	DNREC
Lori Brown	DNREC-NPS
Tommy Burton	Artesian Water
Kim Cloud	DTI
Daniel Cook	DTI
Taryn Davidson	Kent County
Sierra Davis	DNREC
Mike del Tufo	DTI
Darin Dell	DTI
Sharon Dutton	DSHA
Bernie Gilbert	DelDOT
A1C Hawk	USAF/DAFB
Jay Hodny	City of Newark
James Hoff	USAF/DAFB
George Houck	Kent County
Renee Hupp	DEMA
Jimmy Kroon	Dept. of Agriculture
Matthew Laick	Div Comm
Danielle Lamborn	Kent County
Brian Laws	City of Newark
Thomas Match	Town of Smyrna
Nicole Minni	UD-IPA
SrA Morales	USAF/DAFB
Dorothy Morris	OSPC
Ashley Norton	DNREC
Mark Nowak	City of Dover
Miriam Pomilio	OSPC
Alicia Shipley	Washington College
Sigrid Smith	DE State University
Olena Smith	Univ. of Delaware
Tim Snow	WRA
Mike Townshend	DTI
Art Walker	USDA-NRCS
Dan Warner	DGS
Greg Williams	DNREC
Ben Wolfe	Artesian Water
Carl Yetter	DNREC - Coastal

Welcome & Introductions

Miriam Pomilio started the meeting at 9:00 am. She welcomed everyone to the meeting and introductions were made.

August 9, 2018 Meeting Minutes

Dave Bennett made a motion to approve the August 9, 2018 Meeting Minutes (PDF). The motion was seconded by Dan Cook and it passed unanimously.

Geospatial Education Committee

Nicole Minni reported that the GeoTech Center is providing DelTech an NSF grant to work with teachers by offering instruction on GIS Software. Kym Kelly of DelTech is the point of contact for that initiative.

The Delaware GIS Day field trip is November 14 and we are expecting 331 fifth grade students.

Nicole Minni was invited by Joseph Kerski (ESRI) to participate in a Live GeoNet Event to discuss GIS Day. The event will be a live question and answer session on November 9, 2018. Miriam noted this is a big deal for Delaware to be recognized by Esri on our GIS Day event and thanked Nicole for her leadership.

We continue to need additional GeoMentors, if you're interested in volunteering some of your time to

schools and/or special educational events, please contact [Nicole Minni](#).

DGS Contour Update

Dan Warner from the Delaware Geological Survey provided an update on the status of new one foot contours for Delaware. Dan indicated he started with DGS in August and they had already begun working with USGS to get the contours generated. DGS received the full state Contour product from USGS in late October and they are now in the process of doing a QA/QC review. Once they complete their review they will stitch the tiles together and provide the data to FirstMap so it's available to everyone.

Land Use Land Cover Update – See below in Tech Advisory Notes

Bruce Allen from DelDOT was not able to attend the meeting. However, the update for Land Use Land Cover is that DelDOT is hiring AIS to update the LULC. AIS is the same company that did the 2012 update and will be hired and managed by DelDOT. There is interest for Impervious Surface data to be included. Cost estimates will be obtained for these datasets. Any agency interested in helping fund this effort should contact Bruce Allen directly.

Technical Advisory Committee and FirstMap Update – Mike Townshend

Long term planning for GIS coordination is being done through the Governor's GEAR initiative. This is being co-coordinated with Miriam Pomilio and Bruce Allen from DelDOT. DelDOT has offered to pay for the University of Delaware Institute for Public Administration (UD-IPA) to undertake a study to determine the best path forward for long term Geospatial Coordination in the State.

Kim Cloud reported that an issue was brought to FirstMap's attention regarding the alignment of the bridges in the 2017 aerial imagery. Kim contacted Surdex and they have reviewed and updated all of the bridges and are supplying FirstMap with updated imagery. With the schedule for FirstMap 2.0 it is anticipated that this corrected imagery will be launched with FirstMap 2.0.

Nicole Minni provided an update that UD-IPA is providing all municipal data they create for comprehensive plans for upload to FirstMap. Only a few are available as metadata needs to be prepared for all the older datasets. In addition, there is a Guidelines document that Miriam Pomilio of OSPC created for Municipalities to outline how their data can be incorporated into FirstMap. This Guidelines document will be available on FirstMap's document webpage.

Kim provided an update on the implementation of FirstMap 2.0. FirstMap 2.0 will be consolidating the public and private environments. This means there will be changes to URLs for imagery and applications. These changes will follow the Change Notification process set up for FirstMap, therefore allowing outside users the ability to update their applications which use FirstMap web services. There will be a dual environment for transition period to ensure the system is working properly and to give outside users time to test the new connections.

There was a discussion about using ArcGIS Hub and whether it will be offered statewide. This service is a subscription and if enough agencies are interested the state will entertain a cost share program for ArcGIS Hub.

As always if you experience issues, please contact the team at FirstMap@state.de.us.

Presentation – Dover Air Force Base GIS/GPS Data Collection: A way of collecting GeoSpatial Data

Airmen SrA Morales and A1C Hawkes provided an overview of how Dover Air Force Base utilizes GIS and GPS to collect a variety of geospatial data for the Air Base. Due to the sensitive nature of this data we are not able to provide a copy of their presentation.

Presentation – Chesapeake Bay High-Resolution Land Cover

Rachel Soobitsky of the Chesapeake Conservancy presented on the high resolution land cover that has been collected for the Chesapeake Bay area. See the full presentation attached at the end of the meeting minutes

Federal Update

USGS – Roger Barlow reported the following:

- Stream Stats project in the process. (Flow and volume model) with DGS and DE USGS. Should be available next year.
- Time to start thinking about when to start discussing collecting Lidar again. USGS can provide 1/3 of funding. State needs to provide remaining funding. Roger has forms to fill out for grant funding.
 - Ocean facing only, not inland bays area.
 - Miriam will set up a meeting to start discussion.
 - Watershed collection done with lidar.

Census – Census was not at the meeting, however, Kim Cloud from DTI reported that Delaware has established a Complete Count Commission for the upcoming 2020 Census. DTI is also looking into redistricting software options so they can be prepared.

NRCS – Art Walker reported that the 2018 NAIP imagery is about 80 % flown. The resolution will be at 0.6 meters. The NAIP imagery is flown past growing season and is still leaf-on. Art also indicated there has been a Soils data refresh and it has been posted to FirstMap.

Academia Update

Delaware Technical College – Kym Kelly was not available for the meeting, however, Miriam Pomilio reported that DelTech will be hosting a GeoTech training for teachers in the summer of 2019 through a grant program. DelTech is also working on a GIS High School Pathway, in cooperation with UD and DOE.

University of Delaware – Olena Smith reported that UD will host their GIS Day program with guest speakers, Poster sessions, and lightning talks at the Perkins Center on November 14th. They will also have a catered lunch.

Open Comment Period

Mark Biddle from DNREC indicated they are updating the Wetlands mapping for the state. He also indicated his group is working to reconvene the TAC for the Wetland Registry looking at a Phase II of that application.

Jay Hodny from the City of Newark reported they are continuing to find new applications for using Collector in their town. He also mentioned Newark has a Public Parking app which provides users with information about available parking spots by lot and location. The City hopes to make a move to Enterprise GIS in the next year or so. Jay also mentioned that DelDOT will be undertaking a major renovation to Main Street Newark in 2019.

Roger Barlow from USGS discussed a LiDAR derived surface water network. The US Department of Energy and the Environment is looking to create a 2400 scale network for Washington DC. Urban watershed are the new upcoming initiative.

Mark Nowak indicated the City of Dover is working on an initiative that will assist with Security Lighting for private homes in the city. Senator Carper is supportive of this measure and it should reduce crime in the area.

Danielle Lamborn reported that Kent County is working on parcel fabric and will spend next year updating the parcels for the county.

Matt Laick from Department of Safety and Homeland Security indicated they are working with Michael Baker Contractor to establish 911 boundaries between Maryland and Delaware.

Lori Brown from DNREC reported her group is collecting BMP data for the Chesapeake Project. They are also working on a Geo Form to track invasive fish for Delaware Fish and Wildlife.

Jimmy Kroon reported Department of Agriculture Forestry is working with DTI on an application for tree planting and inspections. Ag is also purchasing a crop survey drone, complete with sensors to use in their pesticides program.

Sharon Dutton from Delaware State Housing reported they are continuing to collect housing data and develop maps.

Mike Townshend reported that he is working on an indoor mapping project for the offices at DTI. He is using ArcGIS Pro Campus Base Map.

Debbie Sullivan from DTI indicated she worked to put together and application for the Election data and it will be released later this week.

Dave Bennett from DTI reported that the Ag Lands preservation project will be kicking off soon.

Carl Yetter from DE Coastal Programs reported they are working on a project to look at Vulnerability of State Buildings to sea level rise. Coastal is looking for a list of state building locations.

DNREC reported they are using Survey 123 and GeoForm to collect Waterway Assets.

Nicole Minni from UD-IPA reported she is finalizing the DeIDOT By-ways project and updating the Downtown Development Districts Story map.

George Houck reported that he is undertaking a project to use mobile tablets and Survey 123 to collect a variety of data for Kent County

Thomas Matich from the town Smyrna indicated he is working to collect and QA/QC data for the town. He is standardizing the collection process. Smyrna is also recently expanded and updated their Downtown Development District boundary.

Miriam Pomilio reported the OSPC is working to develop a new PLUS Project application to improve the process for State reviewing agencies. She further reported at the OSPC is very involved in 2 of the Governor's GEAR initiatives – Improvement of GIS Coordination and Development of a State Land Inventory. These projects will provide much needed guidance and accessibility to GIS data.

2019 Meeting Schedule

The 2019 DGDC meetings have been scheduled as follows:

- February 14, 2019
- May 9, 2019
- August 8, 2019
- November 14, 2019

NOTE: Starting in 2019 the location of all DGDC meetings will be moved to the Department of Agriculture (2320 S. DuPont Hwy, Dover, De) and will have a new start time of 10:00 am.

Adjournment

Roger Barlow made a motion to adjourn the meeting and it was seconded by Mark Biddle. The meeting was adjourned at 11:13 am.

Chesapeake Bay High-Resolution Land Cover Project

Rachel Soobitsky

Geospatial Project Manager

rsoobitsky@chesapeakeconservancy.org



Our Mission



Precision Conservation



*"Getting the right practices, in the right places,
at the right scale, and
making sure they are working"*

CBP Proposal

Objective 1: Land Cover Updates

- Partnering with University of Vermont

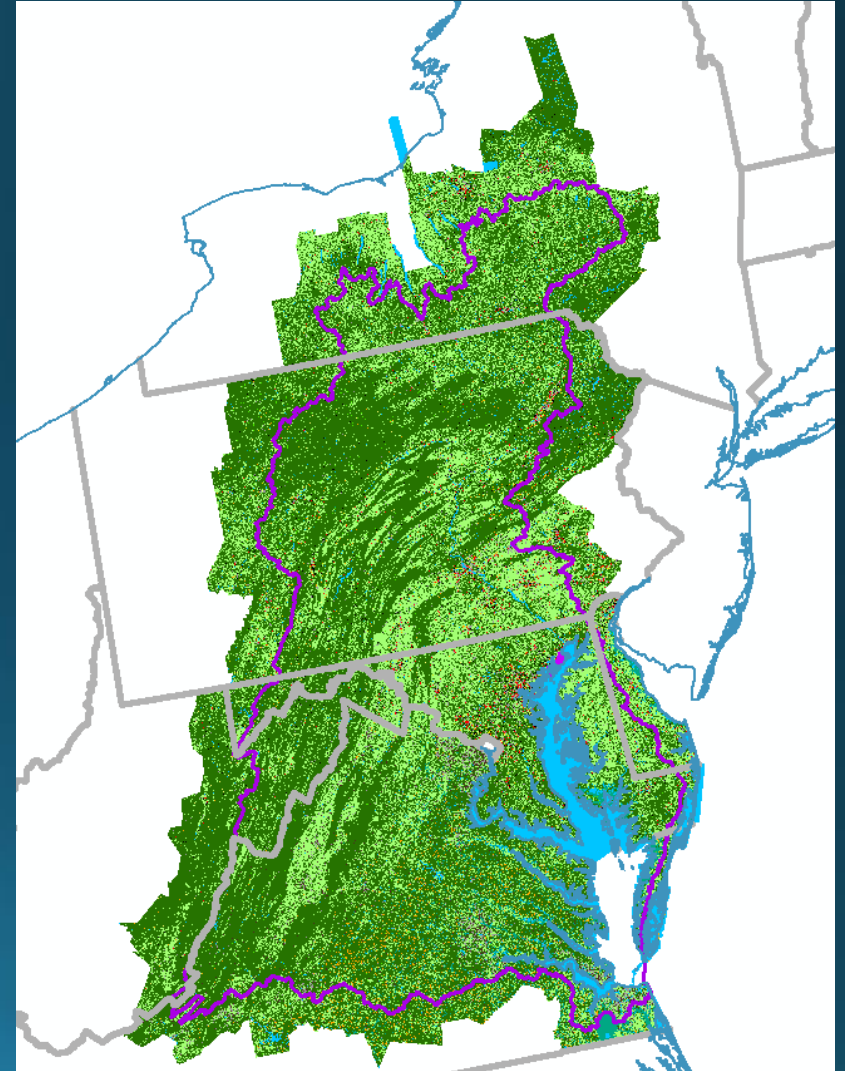
Objective 2: Hydrology & Ditches

- Partnering with UMBC

Objective 3: BMP Mapping & Tracking

- Partnering with Chesapeake Commons and Drexel University

Objective 4: General Geospatial Support

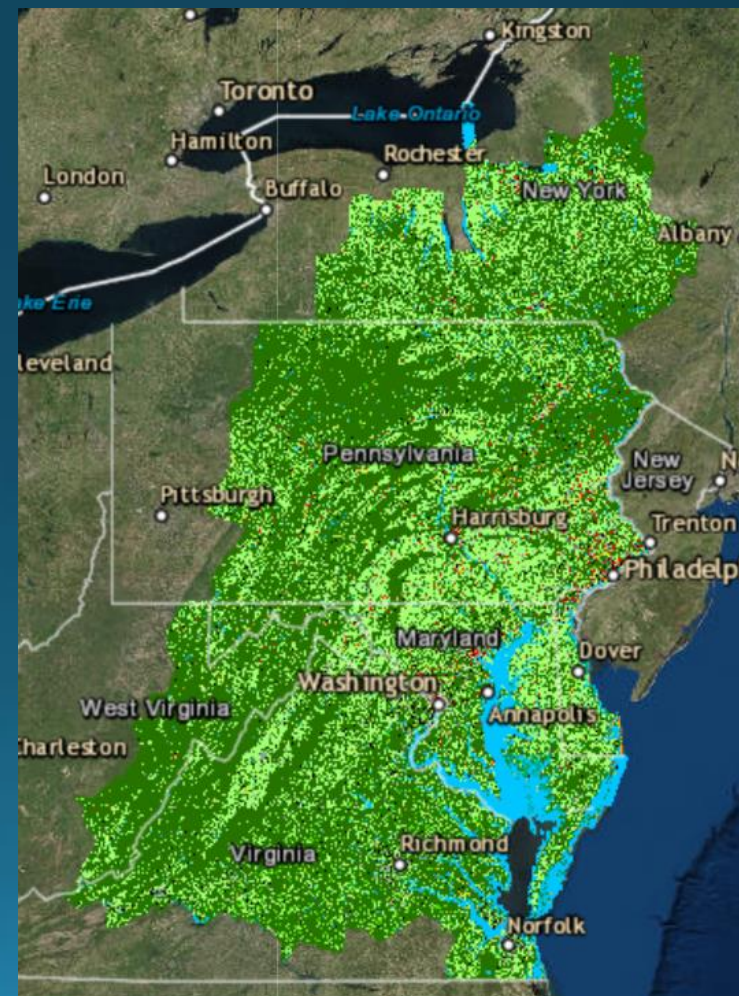


Objective 1: Land Cover Updates

- Stakeholder Outreach
 - Planimetric Data
 - Feedback/Input

bit.ly/LCFeedbackForm

bit.ly/CICLandCoverWebviewer



Data Motivation

TMDL- 2025 Pollution Reduction Goals

- Maryland
- Washington D.C.
- New York
- West Virginia
- Delaware
- Pennsylvania
- Virginia



Partnership

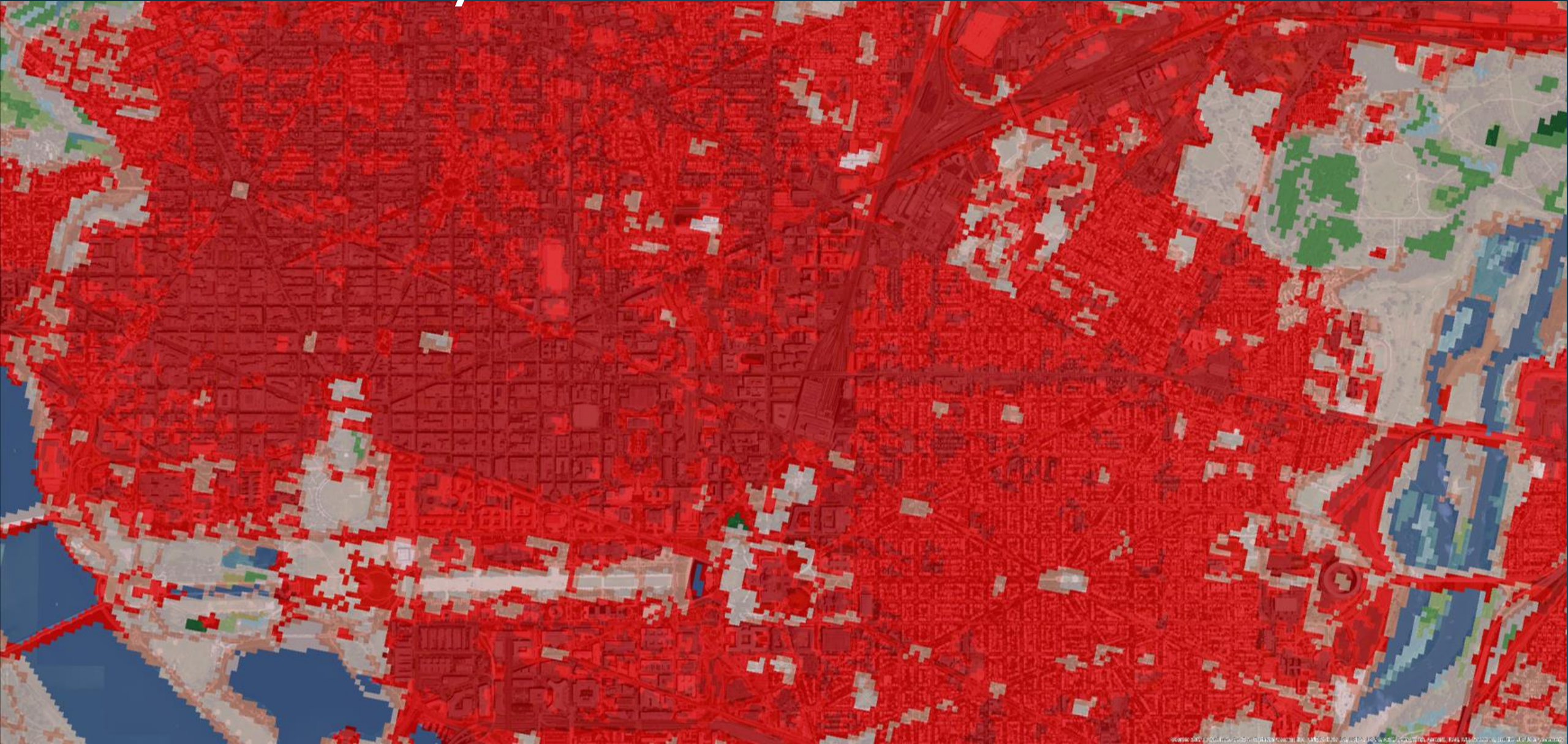


Chesapeake Bay Program
Science. Restoration. Partnership.

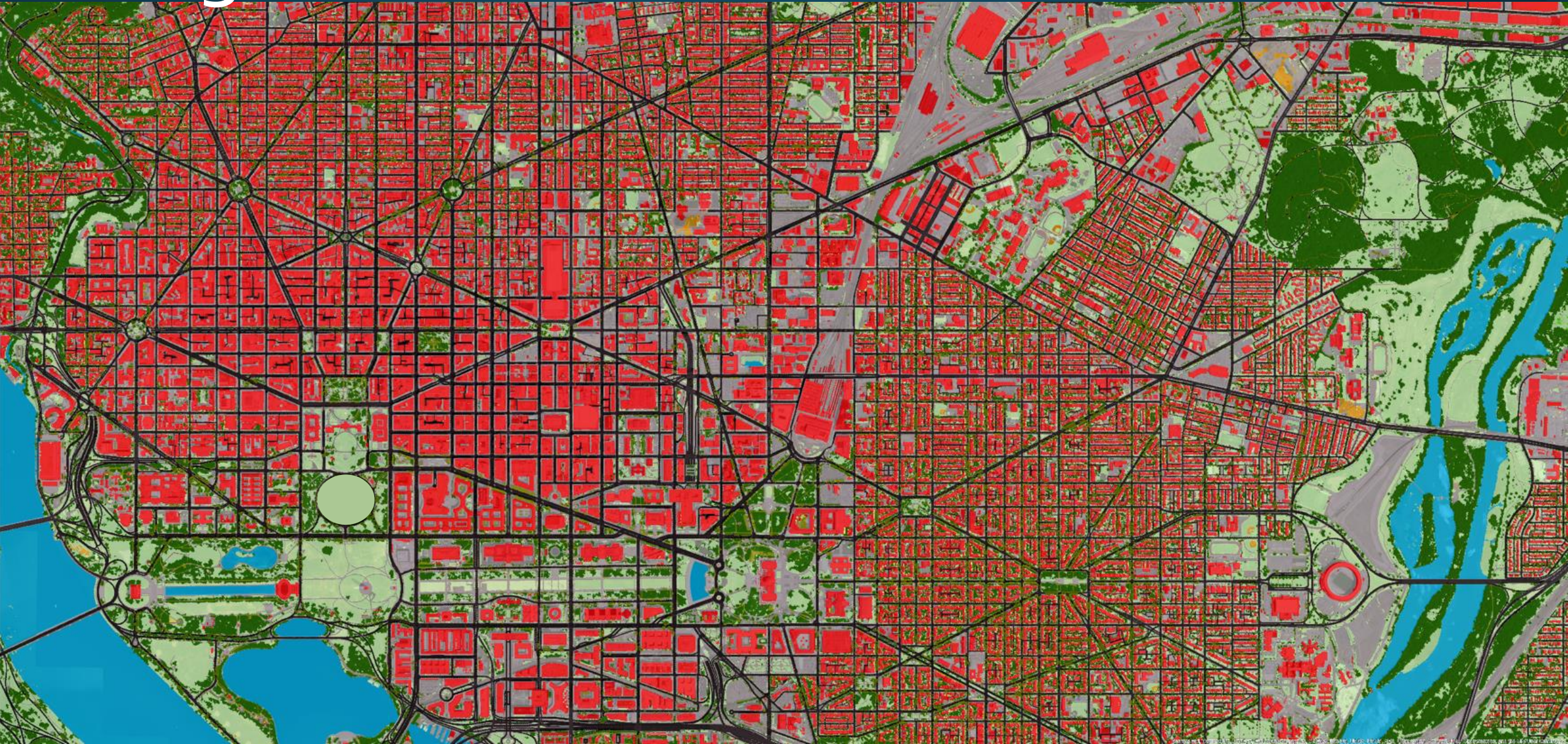


University of Vermont
Spatial Analysis Lab

Previously Available Data



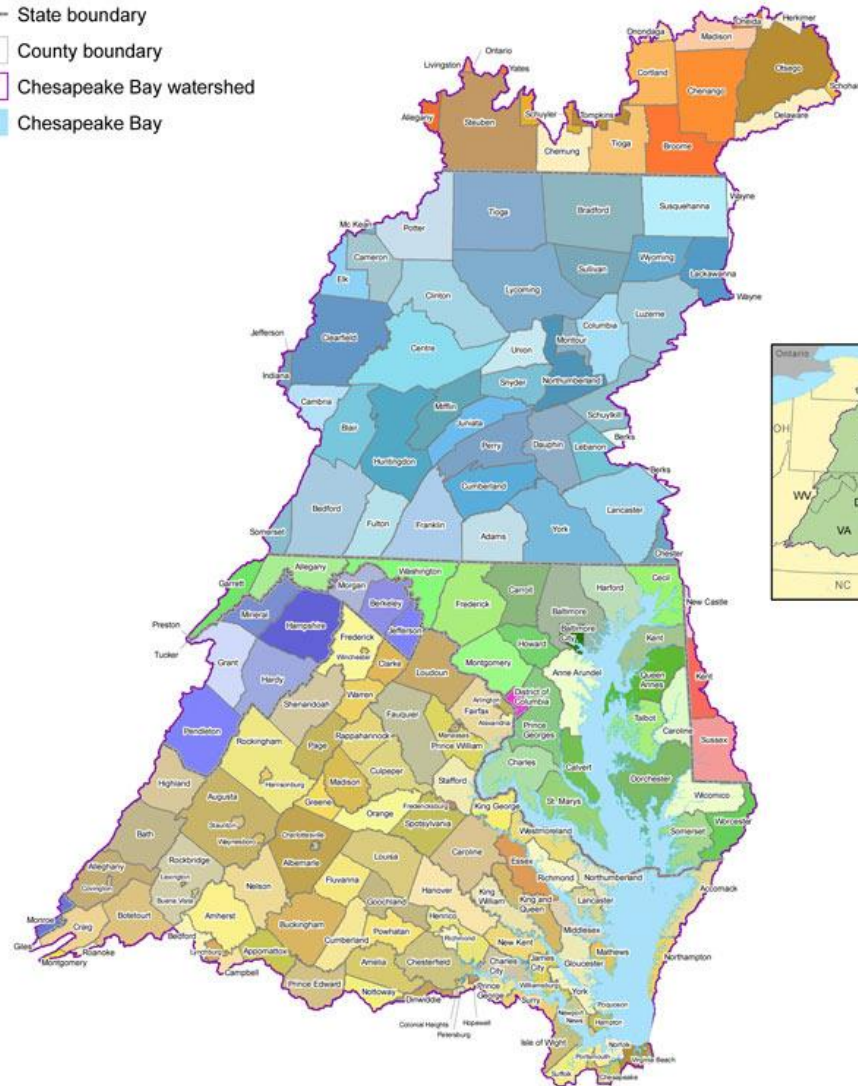
High-resolution Data



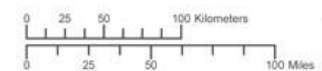
Chesapeake Bay Counties



- State boundary
- County boundary
- Chesapeake Bay watershed
- Chesapeake Bay

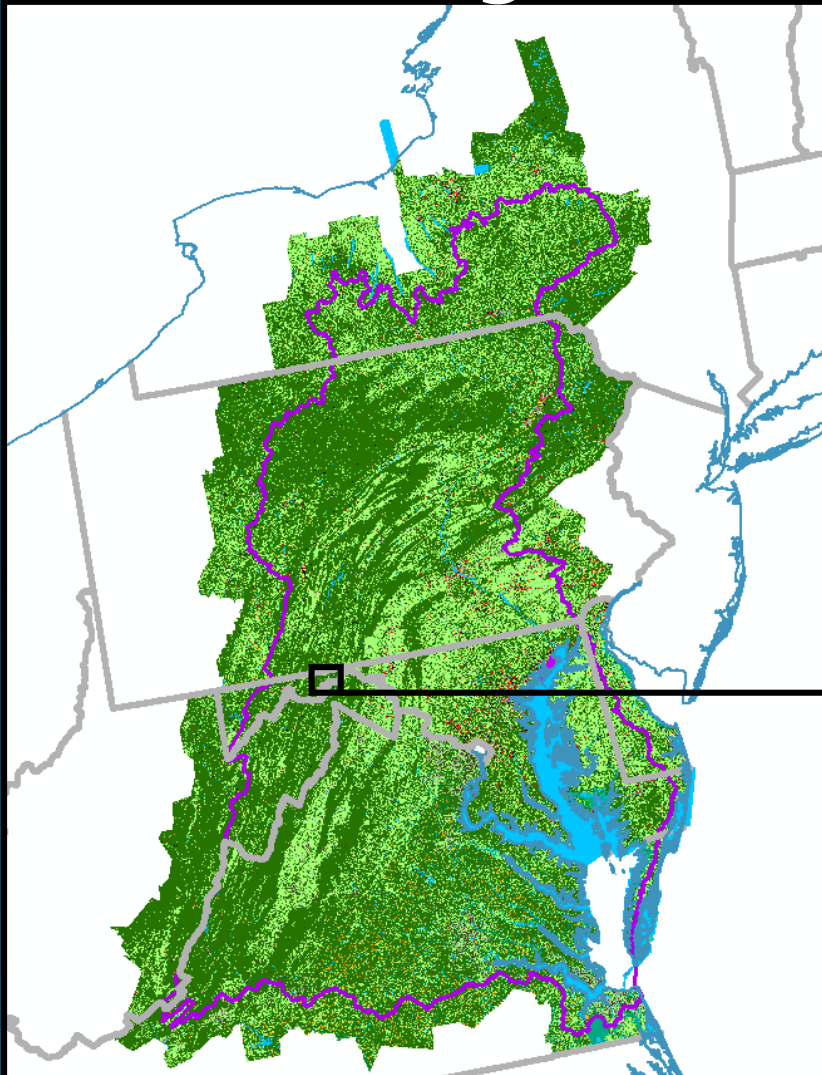


Data Sources: Chesapeake Bay Program
For more information, visit www.chesapeakebay.net
Disclaimer: www.chesapeakebay.net/terms-of-use.htm



High-resolution Data

Planning at the Parcel Scale

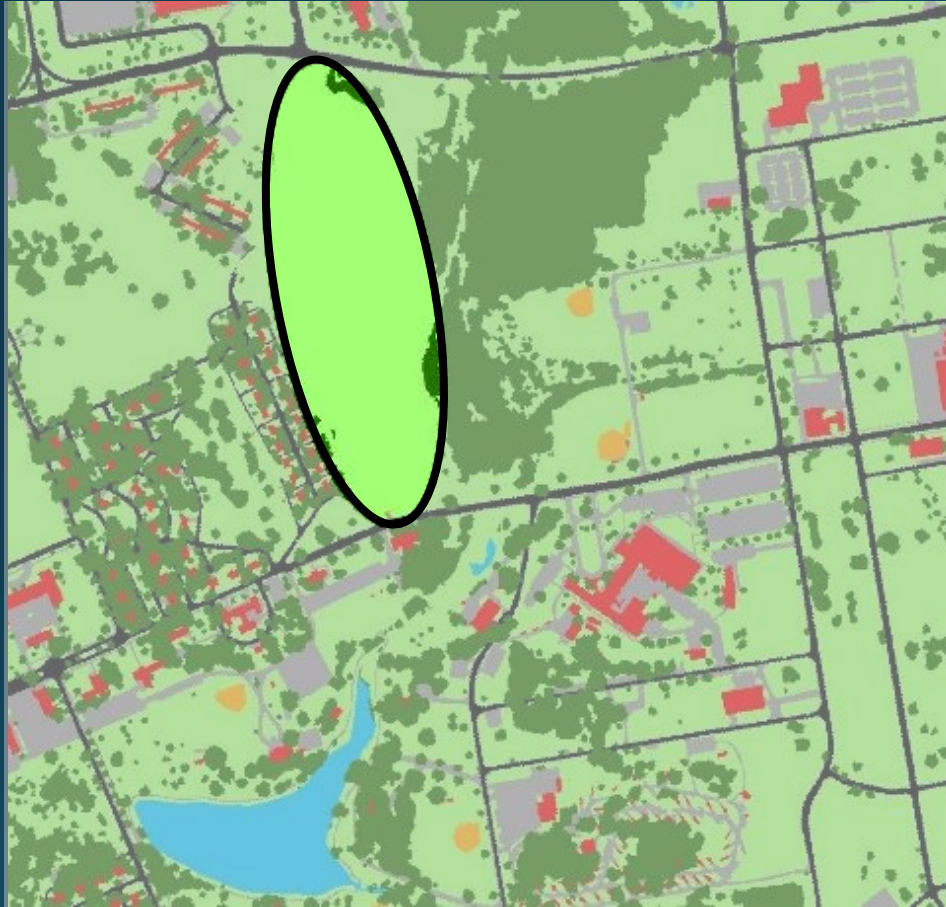


Change Detection

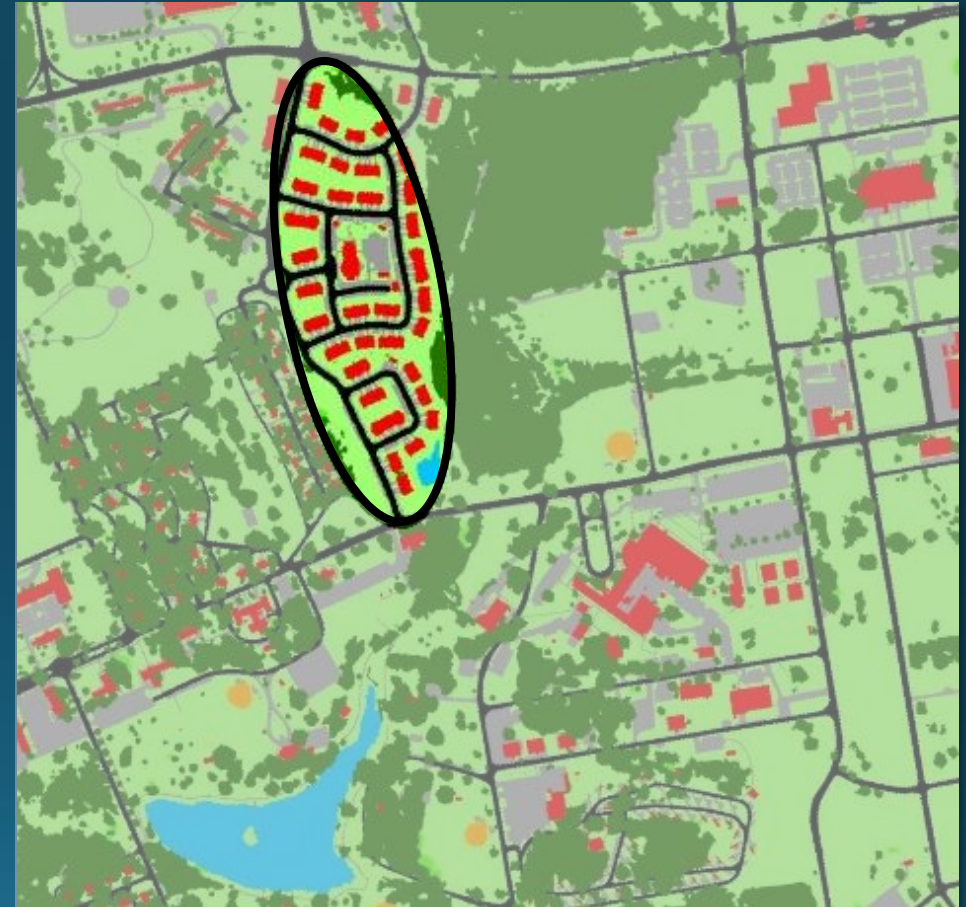
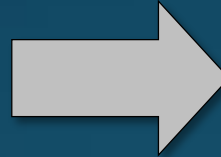


University of Vermont
Spatial Analysis Lab

CID
CONSERVATION
INNOVATION
CENTER
CHESAPEAKE CONSERVANCY



2007

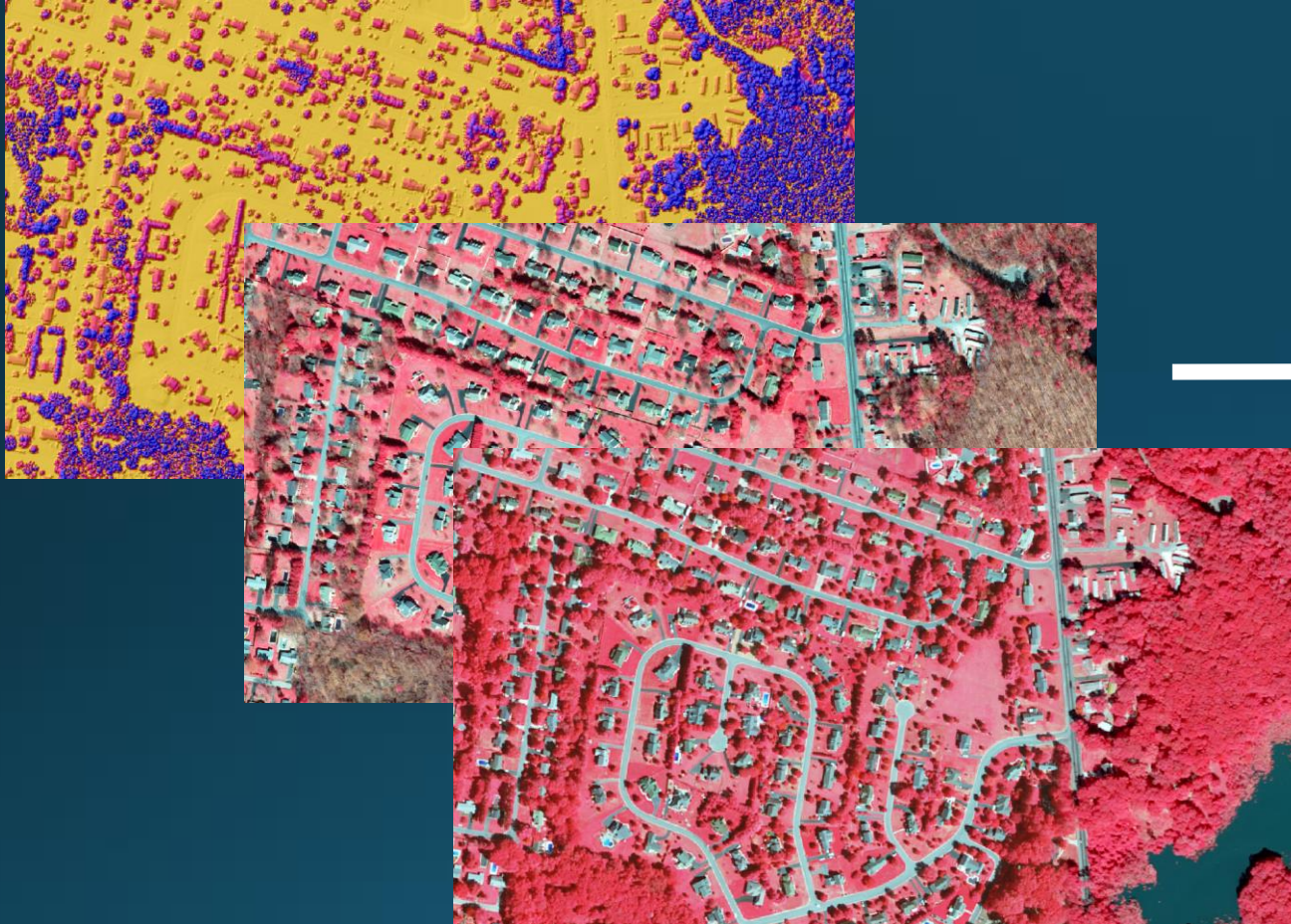


2013

Land Cover Update



University of Vermont
Spatial Analysis Lab



Background	Tree Canopy
Barren	Tree Canopy Over Other Impervious
Low Vegetation	Tree Canopy Over Roads
Other Impervious	Tree Canopy Over Structures
Roads	Water
Scrub-Shrub	Wetlands (emergent)
Structures	

Land Use Conversion

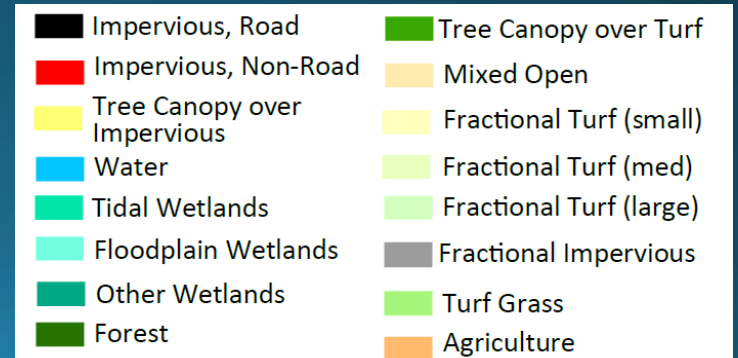
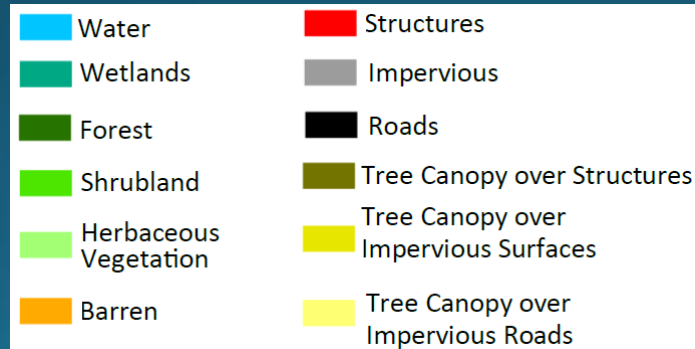
2013 NAIP Imagery



2013 Land Cover



2013 Land Use



Planimetric Data

Integrate county planning data

- Parcel Data
- Local Land Use Data
- Building Footprints
- Street Centerlines
- Zoning Data
- Etc...



Why planimetric enhancement?



Purple: Most updated county buildings dataset
Red: Buildings classified from our remote sensing techniques

Use Cases

Lidar Flow Path Mapping



Lidar Flow Path Mapping















An aerial photograph of a rural landscape. The image shows several large, rectangular green fields, likely agricultural land. A road or path runs through the center of the image, separating the fields. To the left, there is a small cluster of buildings, possibly a farm or a small village. To the right, there is a dense forested area. The overall scene is a mix of agriculture and natural land.

**Better data is only useful if it can be
harnessed to inform better projects**

Goal: Identify priority locations for BMP implementation

CBP Land Cover Classification

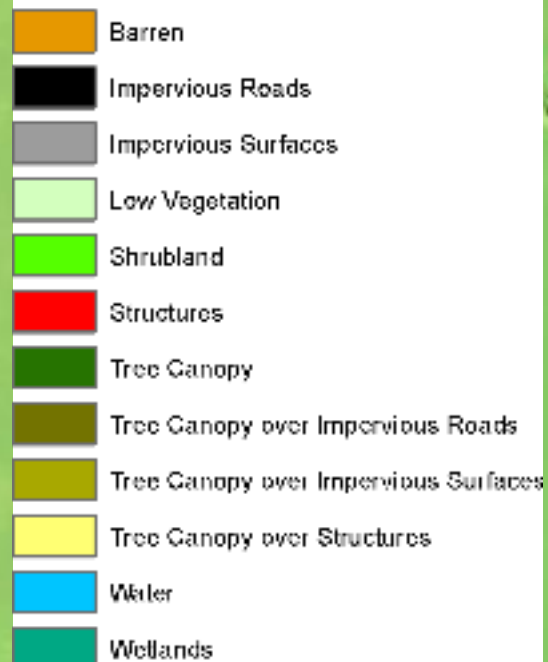
	Barren
	Impervious Roads
	Impervious Surfaces
	Low Vegetation
	Shrubland
	Structures
	Tree Canopy
	Tree Canopy over Impervious Roads
	Tree Canopy over Impervious Surfaces
	Tree Canopy over Structures
	Water
	Wetlands

Pixel size: 1 meter by 1 meter

High Resolution Land Cover & Concentrated Flow Paths



CBP Land Cover Classification



Pixel size: 1 meter by 1 meter

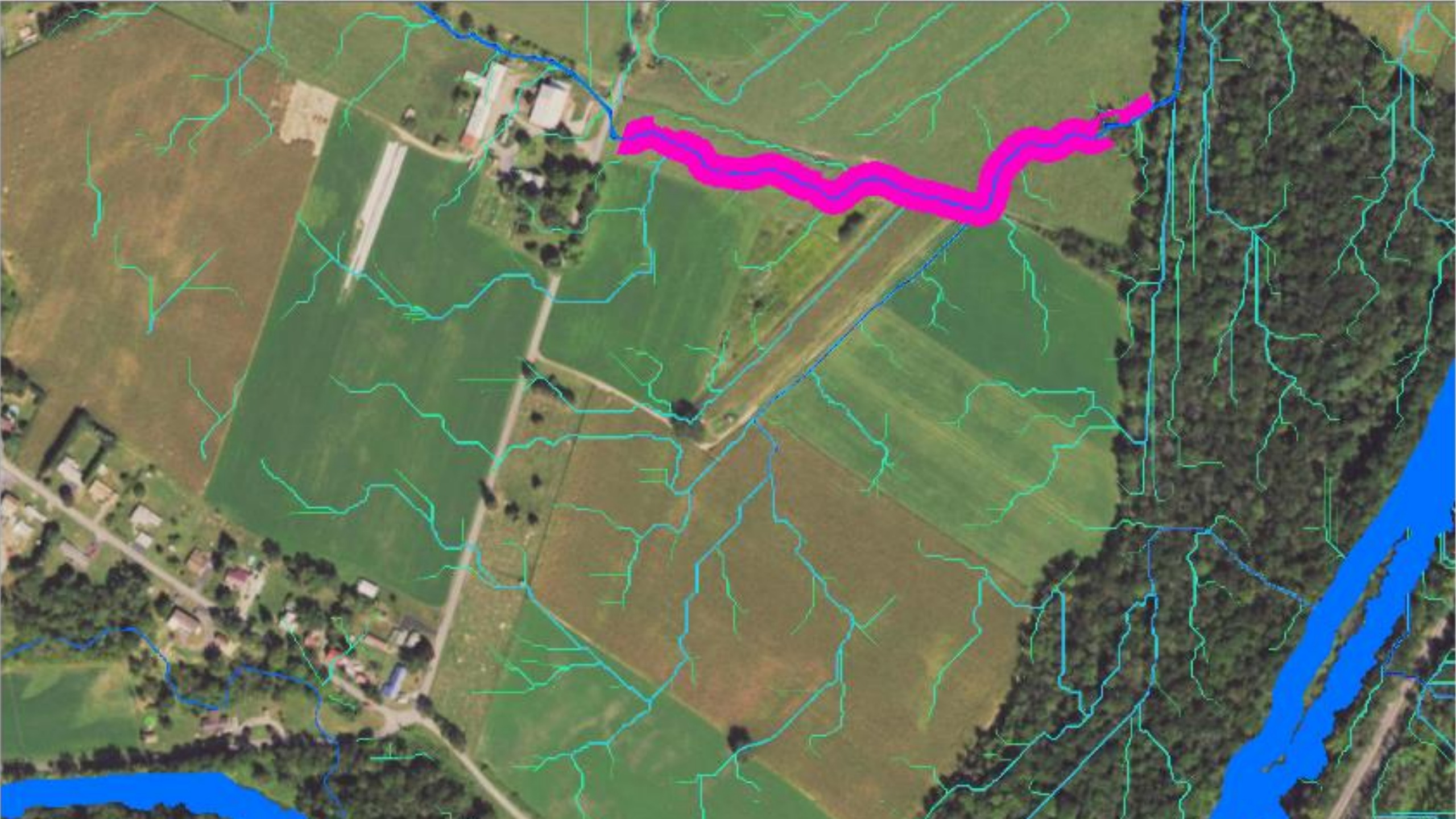
Identified gaps in riparian forest buffer coverage

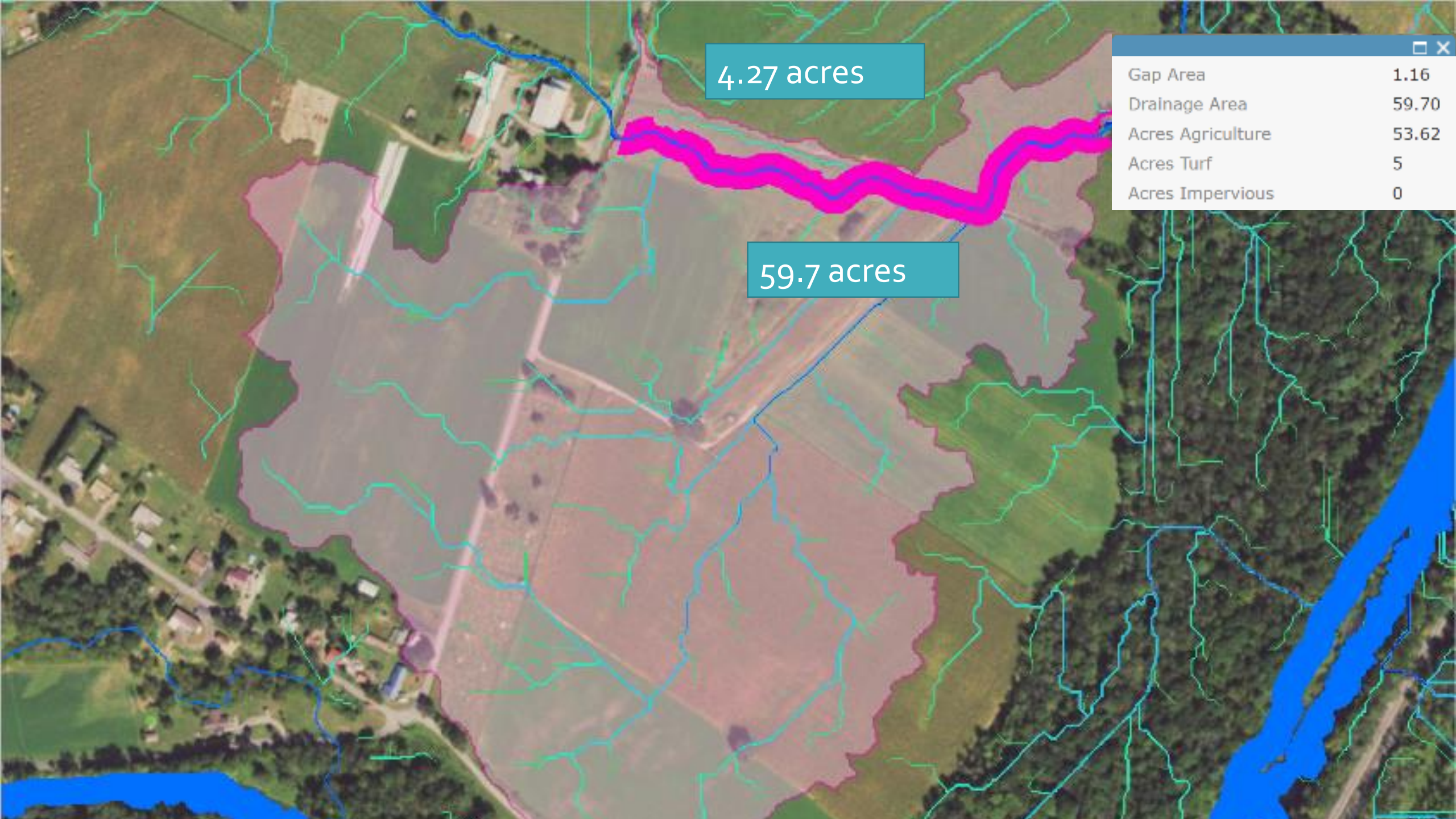
An aerial photograph of a rural landscape with green agricultural fields, brown fallow land, and a dense forest on the right. A blue line representing a waterway or stream runs from the top left, through the center, and down the right side. A magenta-colored area follows the course of this waterway in the upper half of the image. Two teal-colored text boxes are overlaid on the image: one at the top right containing the text '1.18 acres' and another in the center containing the text '1.16 acres'. A larger teal box at the bottom contains the text 'Compare restoration opportunity areas'.

1.18 acres

1.16 acres

Compare restoration opportunity areas





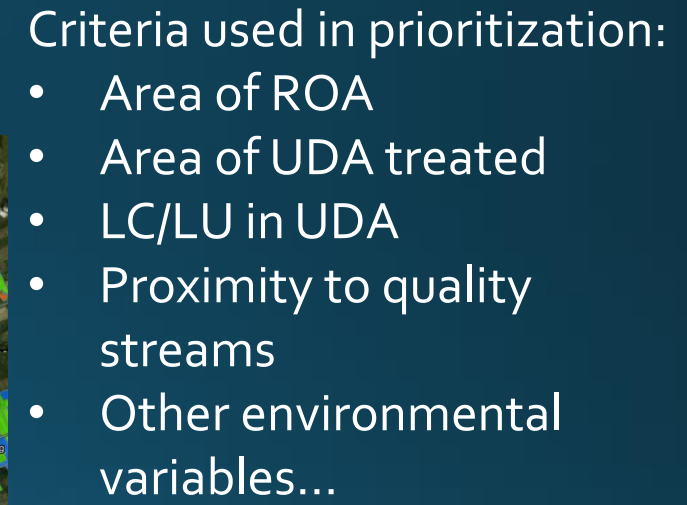
4.27 acres

59.7 acres

Gap Area	1.16
Drainage Area	59.70
Acres Agriculture	53.62
Acres Turf	5
Acres Impervious	0

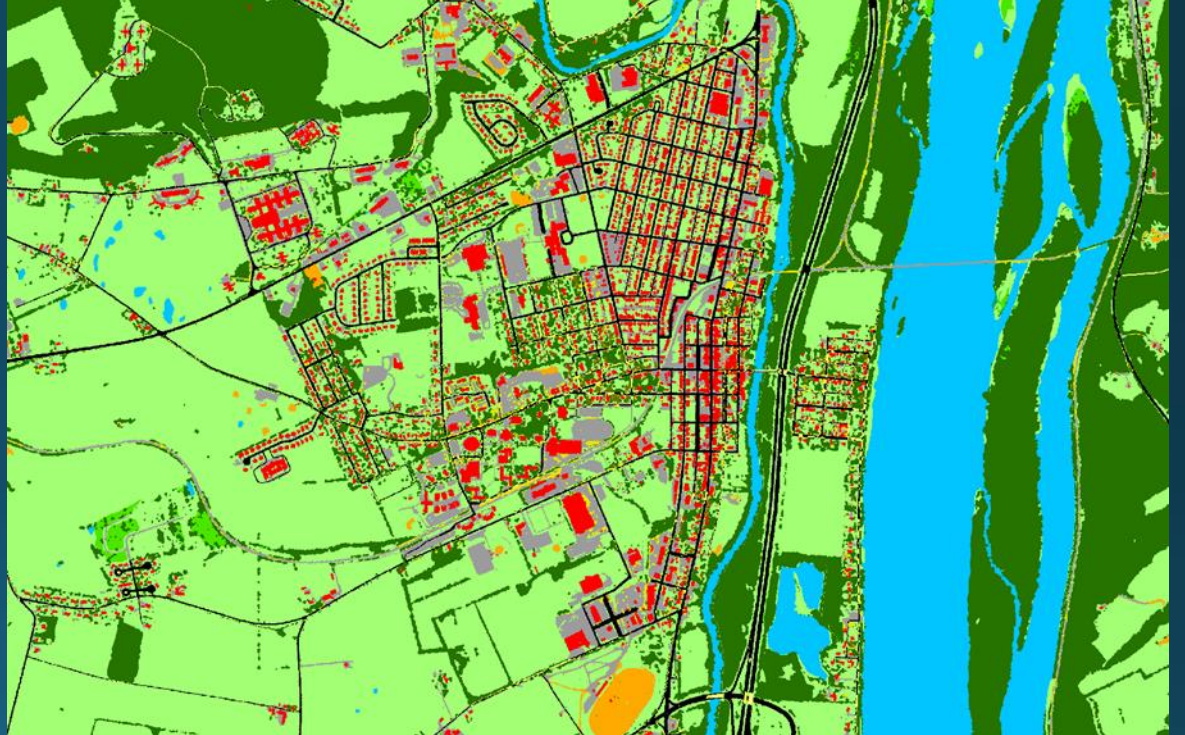
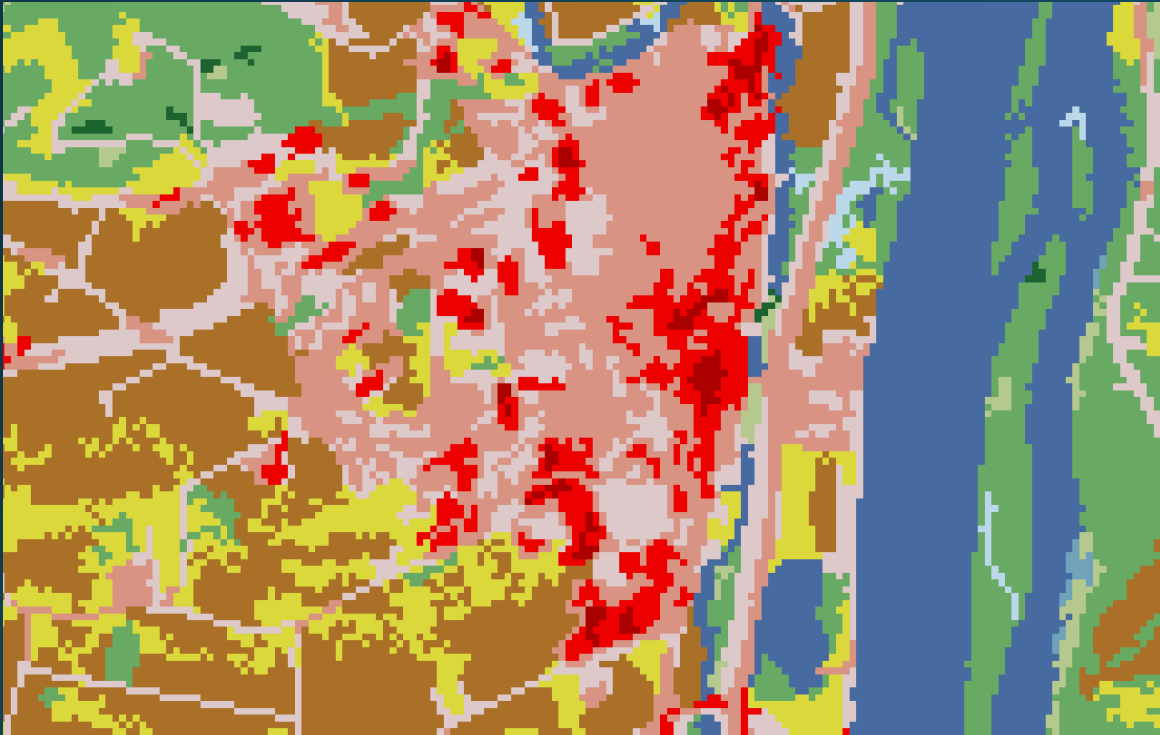


CIC
CONSERVATION
INNOVATION
CENTER
CHESAPEAKE CONSERVANCY



- Area of ROA
- Area of UDA treated
- LC/LU in UDA
- Proximity to quality streams
- Other environmental variables...

bit.ly/LCFeedbackForm
bit.ly/CICLandCoverWebviewer



More Information

bit.ly/LCFeedbackForm

bit.ly/CICLandCoverWebviewer



- Conservation Innovation Center
conservationinnovationcenter.org
- Chesapeake Bay Land Cover
conservationinnovationcenter.org/land-cover-data-project
- Pennsylvania Case Study – Conservation Opportunities Analysis
envisionthesusquehanna.org/precision-conservation-data-and-tools
- Pennsylvania Case Study – Restoration Reporting
restorationreports.com
- Maryland Case Study – Watershed Delineation Tools
chesapeakeconservancy.org/apps/ConservationToolbox
Watershed Delineation -> "Zoom to Chester"
- Maryland Case Study – Prince George's County Stormwater Prioritization Tool
chesapeakeconservancy.org/apps/PG_Stormwater

bit.ly/LCFeedbackForm

bit.ly/CICLandCoverWebviewer



conservationinnovationcenter.org

rsoobitsky@chesapeakeconservancy.org